

<u></u>			PTO/SB/21 (04-04)
	Application Number	10/801,499	
TRANSMITTAL	Filing Date	March 15, 2004	
FORM	First Named Inventor	Calafut, Daniel	
(to be used for all correspondence after initial filing)	Art Unit	2811	
	Examiner Name	Unassigned	
Total Number of Pages in This Submission	Attorney Docket Number	018865-015200US	
E	NCLOSURES (Check all ti	nat apply)	

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Tota	Number of Pages	s in This Submission		Attorney Docket Number	018865-0152	00US	
			ENCL	LOSURES (Check all that	apply)		
	Extension of Till Express Aband Information Dis Certified Copy of Document(s) Response to M	tached eply inal vits/declaration(s) ime Request donment Request sclosure Statement of Priority		Drawing(s) Licensing-related Papers Petition Petition to Convert to a Provisional Application Power of Attorney, Revocation Change of Correspondence Addre Ferminal Disclaimer Request for Refund CD, Number of CD(s)	SS Afficient Approximation App	Technological Technological Con Appeal Con Appeal Con Appeal Noting the Appeal Con Appeal For Enclosion Control Control Control Con Appeal Con	osure(s) (please ow): O/SB/08B ies
]		nse to Missing Parts 37 CFR 1.52 or 1.53				·	
		SIGNAT	TURE O	F APPLICANT, ATTORNE	Y, OR AGEN	T	
Firm or Individu Signatu Date	ial name Ba	ownsend and Towns armak Sani ugust 12, 2004	end and	/ /	No. 45,068		
		CE	RTIFIC	ATE OF TRANSMISSION	/MAILING		
		is correspondence is bei	ing deposit	ted with the United States Postal Box 1450, Alexandria, VA 22313-	Service with suffic		
Typed	or printed name	Tiffany Wu					
Signat	ure	80h				Date	August <u>1</u> , 2004

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TOWNSEND and TOWNSEND and CREW LLP

Attorney Docket No.: 018865-015200US

Client Reference No.: 17732-67340.00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Daniel Calafut et al.

Application No.: 10/801,499

Filed: March 15, 2004

For: OPTIMIZED TRENCH POWER MOSFET WITH INTEGRATED

SCHOTTKY DIODE

Examiner: Not Yet Assigned

Art Unit: 2811

INFORMATION DISCLOSURE

STATEMENT UNDER 37 CFR §1.97 and ...

§1.98

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. With the exception of references from AA through JB, copies of the references are enclosed. It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Daniel Calafut et al.

Application No.: 10/801,499

Page 2

Applicant believes that <u>no fee is required</u> for submission of this statement.

However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,

Barmak Sani

Reg. No. 45,068

TOWNSEND and TOWNSEND and CREW LLP

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Tel: 650-326-2400 Fax: 650-326-2422

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

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Sheet	1	of	11

	Complete if Known
Application Number	10/801,499
Filing Date	March 15, 2004
First Named Inventor	Calafut, Daniel
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	018865-015200US

		,	U.S. PATENT DO	CUMENTS+	
		Document Number			
Examiner Initials*	Cite No. ¹	Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA	US-3,404,295	10-01-1968	Warner et al.	
	AB	US-3,412,297	11-19-1968	Amlinger	
	AC	US-3,497,777	02-24-1970	Teszner et al.	
	AD	US-3,564,356	02-16-1971	Wilson	
	AE	US-4,003,072	01-11-1977	Matsushita et al.	
	AF	US-4,300,150	11-10-1981	Colak	
	AG	US-4,326,332	04-27-1982	Kenney et al.	
	AH	US-4,337,474	06-29-1982	Yukimoto	
	Al	US-4,579,621	04-01-1986	Hine	
	AJ	US-4,636,281	01-13-1987	Buiguez et al.	
	AK	US-4,638,344	01-20-1987	Cardwell, Jr.	
	AL	US-4,639,761	01-27-1987	Singer et al.	
	AM	US-4,698,653	10-06-1987	Cardwell, Jr.	
	AN	US-4,716,126	12-29-1987	Cogan	
	AO	US-4,746,630	05-24-1988	Hui et al.	
	AP	US-4,754,310	06-28-1988	Coe	
	AQ	US-4,774,556	09-27-1988	Fujii et al.	
	AR	US-4,801,986	01-31-1989	Chang et al.	
	AS	US-4,821,095	04-11-1989	Temple	•
	AT	US-4,823,176	04-18-1989	Baliga et al.	
	AU	US-4,853,345	08-01-1989	Himelick	
	AV	US-4,868,624	09-19-1989	Grung et al.	
	AW	US-4,893,160	01-09-1990	. Blanchard	
	AX	US-4,914,058	04-03-1990	Blanchard	
	AY	US-4,941,026	07-10-1990	Temple	
	AZ	US-4,967,245	10-30-1990	Cogan et al.	
-	BA	US-4,974,059	11-27-1990	Kinzer	
	BB	US-4,990,463	02-05-1991	Mori	
	BC	US-4,992,390	02-12-1991	Hsueh-Rong Chang	
	BD	US-5,027,180	06-25-1991	Nishizawa et al.	
	BE	US-5,071,782	12-10-1991	Mori	
	BF	US-5,072,266	12-10-1991	Buluccea	
	BG	US-5,079,608	01-07-1992	Wodarczyk et al.	·
	ВН	US-5,105,243	04-14-1992	Nakagawa et al.	
·	ВІ	US 5,111,253	05-05-1992	Korman et al.	
	BJ	US-5,142,640	08-25-1992	Iwanatsu	
	ВК	US-5,164,325	11-17-1992	Cogan et al.	
	BL	US-5,164,802	11-17-1992	Jones et al.	
	ВМ	US-5,216,275	06-01-1993	Chen	
	BN	US-5,219,777	06-15-1993	Kang	

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Signature	Cor	nsidered
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449A/PTO Complete if Known **Application Number** 10/801,499 INFORMATION DISCLOSURE Filing Date March 15, 2004 STATEMENT BY APPLICANT First Named Inventor Calafut, Daniel Art Unit Not Yet Assigned (use as many sheets as necessary) **Examiner Name** Not Yet Assigned Sheet of 11 Attorney Docket Number 018865-015200US

			U.S. PATENT DO	CUMENTS+	<u> </u>
.	0'4-	Document Number	Publication Date	Name of Patentee or	Pages, Columns, Lines, Where
Examiner Initials*	Cite No.1	Number Kind Code ² (if known)	MM-DD-YYYY	Applicant of Cited Document	Relevant Passages or Relevant Figures Appear
	ВО	US-5,219,793	06-15-1993	Cooper et al.	·
	BP	US-5,233,215	08-03-1993	Baliga	
	BQ	US-5,262,336	11-16-1993	Pike, Jr. et al.	
	BR	US-5,268,311	12-07-1993	Euen et al.	
	BS	US-5,275,965	01-04-1994	Manning	
-	BT	US-5,294,824	03-15-1994	Okada	
	BU	US-5,298,761	03-29-1994	Cogan et al.	
	BV	US-5,300,447	04-05-1994	Anderson	
	ВW	US-5,326,711	07-05-1994	Malhi	
	BX	US-5,350,937	09-27-1994	Yamazaki et al.	
	BY	US-5,365,102	11-15-1994	Mehrotra et al.	
	BZ	US-5,366,914	11-22-1994	Takahashi et al.	
	CA	US-5,389,815	02-14-1995	Takahashi	
	СВ	US-5,405,794	04-11-1995	Kim	
	CC	US-5,418,376	05-23-1995	Muraoka et al.	
	CD	US-5,424,231	06-13-1995	Yang	
	CE	US-5,429,977	07-04-1995	Lu et al.	
	CF	US-5,430,311	07-04-1995	Murakami et al.	
	CG	US-5,430,324	07-04-1995	Bencuya	
	СН	US-5,436,189	07-25-1995	Beasom	
	CI	US-5,438,215	08-01-1995	Tihanyi	
	CJ	US-5,442,214	08-15-1995	Yang	
	СК	US-5,454,435	07-18-1995	Baliga	
	CL	US-5,473,176	12-05-1995	Kakumoto	
	СМ	US-5,473,180	12-05-1995	Ludikhuize	
	CN	US-5,474,943	12-12-1995	Hshieh et al.	
	CO	US-5,519,245	05-21-1996	Tokura et al.	
	СР	US-5,541,425	07-30-1996	Nishihara	
	CQ	US-5,554,862	09-10-1996	Omura et al.	•
•	CR	US-5,567,634	10-22-1996	Hebert et al.	
	CS	US-5,567,635	10-22-1996	Acovic et al.	
	СТ	US-5,572,048	11-05-1996	Sugawara	
	CU	US-5,576,245	11-19-1996	Cogan et al.	
	CV	US-5,578,851	11-26-1996	Hshieh et al.	
	CW	US-5,581,100	12-03-1996	Ajit	
	СХ	US-5,583,065	12-10-1996	Miwa	
	CY	US-5,592,005	01-07-1997	Floyd et al.	
	CZ	US-5,595,927	01-21-1997	Chen et al.	
	DA	US-5,597,765	01-28-1997	Yilmaz et al.	
	DB	US-5,605,852	02-25-1997	Bencuya	

Examiner Signature	·	Date Considered	
Signature		Considered	<i></i>

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Attorney Docket Number

			U.S. PATENT DO	CUMENTS+		
		Document Number		None of Betastania		
Examiner Initials*	Cite No. ¹	Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
	DC	US-5,623,152	04-22-1997	Majumdar et al.		
	DD	US-5,629,543	05-13-1997	Hshieh et al.		
	DE	US-5,637,898	06-10-1997	Baliga		
	DF	US-5,639,676	06-17-1997	Hshieh et al.		
	DG	US-5,640,034	07-17-1997	Satwinder Malhi		
	DH	US-5,648,670	07-15-1997	Blanchard		
	DI	US-5,656,843	08-12-1997	Goodyear et al.	•	
	DJ	US-5,665,619	09-09-1997	Kwan et al.		
	DK	US-5,670,803	09-23-1997	Beilstein, Jr. et al.		
	DL	US-5,689,128	11-18-1997	Hshieh et al.		
	DM	US-5,693,569	12-02-1997	Ueno		
	DN	US-5,705,409	01-06-1998	Witek		
	DO	US-5,710,072	01-20-1998	Krautschneider et al.		
	DP	US-5,714,781	02-03-1998	Yamamoto et al.		
	DQ	US-5,719,409	02-17-1998	Singh et al.		
-	DR	US-5,770,878	06-23-1998	Beasom		
	DS	US-5,776,813	07-07-1998	Huang et al.		
	DT	US-5,780,343	07-14-1998	Bashir		
	DU	US-5,801,417	09-01-1998	Tsang et al.		
	DV	US-5,877,528	03-02-1999	So		
	DW	US-5,879,971	03-09-1999	Witek		
	DX	US-5,879,994	03-09-1999	Kwan et al.		
	DY	US-5,895,951	04-20-1999	So et al.		
	DZ	US-5,895,952	04-20-1999	Darwish et al.		
	EA	US-5,897,343	04-27-1999	Mathew et al.		
	EB	US-5,897,360	04-27-1999	Kawaguchi		
	EC	US-5,900,663	05-04-1999	Johnson et al.		
	ED	US-5,906,680	05-25-1999	Meyerson		
	EE	US-5,917,216	06-29-1999	Floyd et al.		
	EF	US-5,929,481	07-27-1999	Hsieh et al.		
	EG	US-5,943,581	08-24-1999	Lu et al.		
	EH	US-5,949,104	09-07-1999	D'Anna et al.		
	EI	US-5,949,124	09-07-1999	Hadizad et al.		
	EJ	US-5,959,324	09-28-1999	Kohyama		
	EK	US-5,960,271	09-28-1999	Wollesen et al.		
	EL	US-5,972,741	10-26-1999	Kubo et al.		
	EM	US-5,973,360	10-26-1999	Tihanyi		
	EN	US-5,976,936	11-02-1999	Miyajima et al.		
	EO	US-5,981,344	11-09-1999	Hshieh et al.		
	EP	US-5,981,996	11-09-1999	Fujishima		

Examiner		Date	
Signature	•	Considered	

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Sheet

of

11

Substitute for form 1449A/PTO Complete if Known Application Number 10/801,499 INFORMATION DISCLOSURE Filing Date March 15, 2004 STATEMENT BY APPLICANT First Named Inventor Calafut, Daniel Art Unit Not Yet Assigned (use as many sheets as necessary) **Examiner Name** Not Yet Assigned Sheet of 11 **Attorney Docket Number** 018865-015200US

		1.2	U.S. PATENT DO	T	
Examiner Initials*	Cite No.1	Document Number Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	EQ	US-5,998,833	12-07-1999	Baliga	
	ER	US-6,005,271	12-21-1999	Hshieh	
	ES	US-6,008,097	12-28-1999	Yoon et al.	
	ET	US-6,011,298	01-04-2000	Blanchard	
	EU	US-6,015,727	01-18-2000	Wanlass	
	ΕV	US-6,020,250	02-01-2000	Kenny et al.	
	EW	US-6,034,415	05-07-2000	Johnson et al.	
	EX	US-6,037,202	03-14-2000	Witek	
	EY	US-6,037,628	03-14-2000	Huang	
	EZ	US-6,037,632	03-14-2000	Omura et al.	
	FA	US-6,040,600	03-21-2000	Uenishi et al.	
	FB	US-6,048,772	04-11-2000	D'Anna	
	FC	US-6,049,108	04-11-2000	Williams et al.	
	FD	US-6,057,558	05-02-2000	Yamamoto et al.	
	FE	US-6,063,678	05-16-2000	D'Anna	
	FF	US-6,064,088	05-16-2000	D'Anna	
	FG	US-6,066,878	05-23-2000	Neilson	
	FH	US-6,081,009	06-27-2000	Neilson	
	FI	US-6,084,264	07-04-2000	Darwish	
	FJ	US-6,084,268	07-04-2000	de Frésart et al.	
	FK	US-6,087,232	07-11-2000	Kim et al.	· · · · · · · · · · · · · · · · · · ·
	FL	US-6,096,608	08-01-2000	Williams	
	FM	US-6,097,063	08-01-2000	Fujihira	
	FN	US-6,103,578	08-15-2000	Uenishi et al.	
	FO	US-6,104,054	08-15-2000	Corsi et al.	
	FP	US-6,110,799	08-29-2000	Huang	
	FQ	US-6,114,727	09-05-2000	Ogura et al.	
	FR	US-6,137,152	10-24-2000	Wu	
	FS	US-6,156,606	12-05-2000	Michaelis	
	FT	US-6,156,611	12-05-2000	Lan et al.	
	FU	US-6,163,052	12-19-2000	Liu et al.	
	FV	US-6,165,870	12-26-2000	Shim et al.	
	FW	US-6,168,983	01-02-2001	Rumennik et al.	
	FX	US-6,168,996	01-02-2001	Numazawa et al.	
	FY	US-6,171,935	01-09-2001	Nance et al.	
	FZ	US-6,174,773	01-16-2001	Fujishima	
	GA	US-6,174,785	01-16-2001	Parekh et al.	
	GB	US-6,184,545	02-06-2001	Werner et al.	
	GC	US-6,184,555	02-06-2001	Tihanyi et al.	
	GD	US-6,188,104	02-13-2001	Choi et al.	

Examiner	Date	
Signature	Considered	

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Substitute for form 1449A/PTO Complete if Known 10/801,499 **Application Number** INFORMATION DISCLOSURE Filing Date March 15, 2004 STATEMENT BY APPLICANT First Named Inventor Calafut, Daniel Art Unit Not Yet Assigned (use as many sheets as necessary) **Examiner Name** Not Yet Assigned 018865-015200US Sheet 11 Attorney Docket Number

			U.S. PATENT DO	CUMENTS+	
Examiner Initials*	Cite No.1	Document Number Number Kind Code ² (<i>if known</i>)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	GE	US-6,188,105	02-13-2001	Kocon et al.	
	GF	US-6,190,978	02-20-2001	D'Anna .	
	GG	US-6,191,447	02-20-2001	Baliga	
	GH	US-6,198,127	03-06-2001	Kocon	
	GI	US-6,201,279	03-13-2001	Pfirsch	
	GJ	US-6,204,097	03-20-2001	Shen et al.	
,	GK	US-6,207,994	03-27-2001	Rumennik et al.	
	GL	US-6,222,233	04-24-2001	D'Anna	
	GM	US-6,225,649	05-01-2001	Minato	
	GN	US-6,228,727	05-08-2001	Lim et al.	
	GO	US-6,239,464	05-29-2001	Tsuchitani et al.	
	GP	US-6,265,269	07-24-2001	Chen et al.	
	GQ	US-6,271,100	08-07-2001	Ballantine et al.	
	GR	US-6,271,552	08-07-2001	D'Anna	
	GS	US-6,271,562	08-07-2001	Deboy et al.	
	GT	US-6,274,905	08-14-2001	Mo	
	GU	US-6,277,706	08-21-2001	Ishikawa	
	GV	US-6,285,060	09-04-2001	Korec et al.	
	GW	US-6,291,298	09-18-2001	Williams et al.	
	GX	US-6,291,856	09-18-2001	Miyasaka et al.	
	GY	US-6,294,818	09-25-2001	Fujihira	
	GZ	US-6,297,534	10-02-2001	Kawaguchi et al.	
	HA	US-6,303,969	10-16-2001	Tan	
	НВ	US-6,307,246	10-23-2001	Nitta et al	
	HC	US-6,309,920	10-30-2001	Laska et al.	
	HD	US-6,313,482	11-06-2001	Baliga	
	HE	US-6,326,656	12-04-2001	Tihanyi	
	HF	US-6,337,499	01-08-2002	Werner	
	HG	US-6,346,464	02-12-2002	Takeda et al	
	· HH	US-6,346,469	02-12-2002	Greer	
	н	US-6,351,018	02-26-2002	Sapp	-
	HJ	US-6,353,252	03-05-2002	Yasuhara et al.	
	НК	US-6,359,308	03-19-2002	Hijzen et al.	
	HL	US-6,362,112	03-26-2002	Hamerski	
	НМ	US-6,362,505	03-26-2002	Tihanyi	
	HN	US-6,365,462	04-02-2002	Baliga	
	НО	US-6,365,930	04-02-2002	Schillaci et al.	
	HP	US-6,368,920	04-09-2002	Beasom	
	HQ	US-6,368,921	04-09-2002	Hijzen et al	
	HR	US-6,376,314	04-23-2002	Jerred	

Examiner	Date	
Signature	 Considered	

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Substitu	ite for form 1449A/P	то		Complete if Known		
				Application Number	10/801,499	
INF	ORMATION	N DIS	SCLOSURE	Filing Date	March 15, 2004	
STA	TEMENT I	BY A	PPLICANT	First Named Inventor	Calafut, Daniel	
				Art Unit	Not Yet Assigned	
	(use as many sheets as necessary)			Examiner Name	Not Yet Assigned	
Sheet	6	of	11	Attorney Docket Number	018865-015200US	

U.S. PATENT DOCUMENTS+									
Examiner Initials*	Cite No. ¹	Document Number Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear				
	HS	US-6,376,878	04-23-2002	Kocon					
	HT	US-6,376,890	04-23-2002	Tihanyi					
	HU	US-6,384,456	05-07-2002	Tihanyi					
	HV	US-6,388,286	05-14-2002	Baliga					
	HW	US-6,388,287	05-14-2002	Deboy et al.					
	НХ	US-6,400,003	06-04-2002	Huang					
	HY	US-6,429,481 B1	08-06-2002	Mo et al.					
	HZ	US-6,433,385	08-13-2002	Kocon et al.					
	IA	US-6,436,779	08-20-2002	Hurkx et al.					
	IB	US-6,437,399	08-20-2002	Huang					
	IC	US-6,441,454	08-27-2002	Hijzen et al.					
	ID	US-6,452,230	09-17-2002	Boden, Jr.					
	ΙE	US-6,465,304	10-15-2002	Blanchard et al.					
	IF	US-6,465,843	10-15-2002	Hirler et al.					
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					Application Number	10/801,499	
INF(ORMA	NOIT	I DIS	SCLOSURE	Filing Date	March 15, 2004	
STA	TEME	ENT E	BY A	PPLICANT	First Named Inventor	Calafut, Daniel	
					Art Unit	Not Yet Assigned	
	(use as many sheets as necessary)				Examiner Name	Not Yet Assigned	
Sheet	7		of	11	Attorney Docket Number	018865-015200US	

				FOREIGN	PATENT DOC	JMENTS		
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	KH	PCT	WO 01/06550	A1	01-23-2001	Koninklijke Philips Electronics		
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INFO	DRMATION	l Di	SCLOSURE	Filing Date	March 15, 2004	
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			•	Art Unit	Not Yet Assigned	
	(use as many sheets as necessary)			Examiner Name	Not Yet Assigned	
Sheet	8	of	11	Attorney Docket Number	018865-015200US	

			F	OREIGN	PATENT DOC	UMENTS		
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	KN	PCT	WO 01/95398	A1	12-13-2001	General Semiconductor, Inc.		
	ко	PCT	WO 02/01644	A2	01-03-2002	Silicon Wireless Corporation		
	KP	PCT	WO 02/047171	A1	06-13-2002	International Rectifier Corporation		E

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Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.						
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4	LY	Technical Literature from Silicon Valley Group Thermal Systems, APNext, High Throughput APCVD Cluster Tool for 200 mm/300 mm Wafer Processing (unknown date), 2 pages total.			
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	мс	WOLF, "Silicon Processing for The VLSI Era" Vol. 2 Process Integration Lattice Press (1990) 3 pages total.			
	MD	YAMASHITA, et al., "Conduction Power loss in MOSFET synchronous rectifier with parallel-connected schottky barrier diode, (July 1998) <i>IEEE Transactions on Power electronics</i> , Vol. 13, No. 4, pp. 667-673.			

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